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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,801	07/23/2003	Anthony C. Zuppero	22122878-70	9026

26453 7590 01/17/2006

BAKER & MCKENZIE LLP
1114 AVENUE OF THE AMERICAS
NEW YORK, NY 10036

EXAMINER

DIAMOND, ALAN D

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 01/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/625,801	Applicant(s) ZUPPERO ET AL.	
	Examiner Alan Diamond	Art Unit 1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32,34,35,39,40,43,44,46,48,52-54,57-63,65,67-72,74-77,79,81-89 and 93-102 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims pending in the application are 32,34,35,39,40,43,44,46,48,52-54,57-63,65,67-72,74-77,79,81-89 and 93-102.

DETAILED ACTION

Comments

1. The terminal disclaimers filed January 4, 2006 have not been approved because the attorney who signed the disclaimers is not an attorney of record.
2. Prosecution has been reopened in the instant application in view of the new grounds of rejection set forth below.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 32, 34, 35, 39, 40, 43, 44, 46, 48, 52-54, 57-63, 65, 67-72, 74-77, 79, 81-89, and 93-102 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 65-97, 102-130, and 144-156 of U.S.

Patent No. 6,916,451. Although the conflicting claims are not identical, they are not

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patentably distinct from each other because in the method in the claims of said patent, the catalytic excitation collector corresponds to the instant thin electrically conducting surface, and energy is generated using a diode as here claimed.

5. Claims 32, 34, 35, 39, 40, 43, 44, 46, 48, 52-54, 57-63, 65, 67-72, 74-77, 79, 81-89, and 93-102 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, 4-19, and 47 of copending Application No. 09/682,363. Although the conflicting claims are not identical, they are not patentably distinct from each other because the method in the claims of said copending application have a conducting surface (i.e., instant electrically conducting surface) and diode as here claimed.

The Examiner notes that the provisional obviousness-type double patenting rejection over 09/682,363 had been previously withdrawn in paragraph 4 the Office action mailed 05/12/2005. However, upon reconsideration, as noted in the immediately preceding paragraph, it is the Examiner's position that the claims of 09/682,363 render obvious the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

6. Claims 32, 34, 35, 39, 40, 43, 44, 46, 48, 52-54, 57-63, 65, 67-72, 74-77, 79, 81-89, and 93-102 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-24 of copending Application No. 10/759,341. Although the conflicting claims are not identical, they are not patentably distinct from each other because the method in the claims of said copending

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application generates energy using the instant Schottky diode and vibrationally energized species.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claims 32, 34, 35, 39, 40, 43, 44, 46, 48, 52-54, 57-63, 65, 67-72, 74-77, 79, 81-89, and 93-102 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-37 of U.S. Patent No. 6,649,823. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of said patent do not specifically require that the surface on which the vibrationally exited reaction products collide forms a semiconductor diode with one or more semiconductor elements. However, note that claim 7 of said patent teaches that the converter can be a diode. In view of Figure 3 in said patent, and col. 16, line 42 through col. 17, line 17, said surface can be part of the diode, in particular, the conducting surface (110) corresponds to the surface the claims of said copending application, and said conducting surface forms part of a Schottky diode along with semiconductors (111) and (104). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed said surface in the claims of said patent as part of a diode because such is within the scope of the claims of said patent.

8. Claims 32, 34, 35, 39, 40, 43, 44, 46, 48, 52-54, 57-63, 65, 67-72, 74-77, 79, 81-89, and 93-102 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8, 27-37, and

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42-49 of copending Application No. 10/052,004. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of said copending application do not specifically require that the surface on which the vibrationally excited molecules collide forms a semiconductor diode with one or more semiconductor elements. However, note that claim 31 of said copending application teaches that collecting excited carriers (i.e., hot electrons) can be with a Schottky diode. Note that Figure 2 in said patent is essentially identical to instant Figure 3. Conducting layer (110) in said Figure 2, forms a diode with semiconductor layer (106), and it is the position such that said layer (110) transfers reaction product energy to electrons as here claimed. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed said surface in the claims of said copending application as part of a diode because such is within the scope of the claims of said copending application

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

9. Applicant's arguments with respect to the instant claims have been considered but are moot in view of the new grounds of rejection.

Furthermore, as noted above, terminal disclaimers filed January 4, 2006 have not been approved because the attorney who signed the disclaimers is not an attorney of record.

Conclusion

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10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,944,202 is hereby made of record.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Diamond whose telephone number is 571-272-1338. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alan Diamond
January 10, 2006

Alan Diamond
Primary Examiner
Art Unit 1753

A handwritten signature in black ink, appearing to read 'Alan Diamond', with a long horizontal stroke extending to the right.